

1.01	INSTRUMENT PROVING OR CALIBRATING	1.43	..Chronometer (e.g., clock, watch, or watch unbalance)
1.02	..Gas or liquid analyzer	1.44	...Using antenna or radio frequency (RF)
1.03	..Reference standard	1.45	...Using optical sensor or element
1.04	...Permeable outlet or flawed element	1.46	....With sound sensor
1.05	...Piston, sprayer, nozzle, or orifice	1.47	....Resilient element
1.06	..Gas	1.48	...Using sound sensor or piezoelectric vibration sensor
1.07	...Span or zero	1.49	....Plural watches or plural sensors
1.08	..Dynamometer	1.51	....Resilient element
1.09	..Torque	1.52	...Plural watches
1.11	...Electrical	1.53	...With resilient element
1.12	...Wrench	1.54	....Coil spring
1.13	..Weight	1.55	....Plural coil springs
1.14	..Rotor unbalance or a roller having a smooth surface	1.56	..Optical instrument (e.g., camera shutter) or optical sensor
1.15	..Load cell (e.g., strain gauge or piezoelectric sensor)	1.57	..Fluid pressure
1.16	..Volume of flow, speed of flow, volume rate of flow, or mass rate of flow	1.58	..Vacuum
1.17	..Plug with leak detector	1.59	..With signal correction or processing
1.18	..Sphere	1.61	...Span
1.19	..Piston	1.62	...Zero
1.21	...With plural pistons	1.63	...With reference source or attachment therefor
1.22	...With magnetic or optical sensor	1.64	....Varying
1.23	...With position sensing switch	1.65	..Dead weight type
1.24	..Tracer	1.66	..Varying
1.25	..Orifice or restriction	1.67	...Using or containing liquid
1.26	...Nozzle or venturi	1.68	..With piston and cylinder
1.27	..Turbine, geared meter, pulse activated, or counter	1.69	..Using or containing liquid
1.28	...Turbine or geared meter	1.71	..Pressure activated device
1.29	..Anemometer or pitot tube	1.72	...Valve
1.31	..With liquid level monitor or timer	1.73	..Liquid level or volume measuring apparatus
1.32	...Prover bell	1.74	..Volumetric dispenser (e.g., pipette)
1.33	..With floating element or weighing	1.75	..Angle, direction, or inclination
1.34	..With signal processing, span or set point adjustment (e.g., zero correction)	1.76	..Compass
1.35	..With pressure measurement or plural flowmeters	1.77	..Gyroscope
1.36	..Metering dispenser	1.78	..Aircraft, inertial navigation, or attitude
1.37	..Speed, velocity, or acceleration	1.79	..Displacement, motion, distance, or position
1.38	..Acceleration utilizing an inertial element	1.81	..Length, width, or height
1.39	...Involving pendulum or impact	1.82	..Apparatus for measuring by use of vibration or apparatus for measuring vibration (e.g., acoustic or ultrasonic)
1.41	..Optical or magnetic sensing	1.83	..Liquid
1.42	..Timing apparatus (e.g., fuse, camera, or shutter)		

1.84	..Rotary or rotor unbalance	19.03	.By vibration
1.85	..Seismic (e.g., geophone) or with optical sensor	19.04	.By rate of flow of the gas
1.86	..Reference standard detail	19.05	.By pressure of the gas
1.87	.Centrifuge	19.06	..Of a beverage
1.88	.Span or set point adjustment (e.g., zero correction)	19.07	.Of metal
1.89	.Roughness or hardness	19.08	.Of concrete, mortar, or plastic while in a fluent state
7	BY ABRASION, MILLING, RUBBING, OR SCUFFING	19.09	.Of mud
8	.Wheel tread, tire, track, or roadway	19.1	.Of a liquid
9	FRICTIONAL RESISTANCE, COEFFICIENT OR CHARACTERISTICS	19.11	..Lubricant
10	.Lubricant testing	19.12	.Particular separator
11.01	TESTING IMPACT DELIVERING DEVICE (E.G., A HAMMER)	23.2	GAS ANALYSIS
11.02	.Shot peener	23.21	.With compensation detail (for error or drift correction, etc.)
11.03	.Pile driving hammer	23.22	..For gas chromatography
11.04	TESTING OF SHOCK ABSORBING DEVICE (E.G., AUTOMOBILE SHOCK ABSORBER, GUN RECOIL APPARATUS, ETC.)	23.23	...Baseline drift correction circuitry
11.05	.Torsional vibration damper	23.24	...Rate of flow
11.06	.Railway draft gear	23.25	...Temperature
11.07	.In situ vehicle suspension	23.26	....Gradient
11.08	..By applying reciprocating or oscillating motion	23.27	...Pressure
11.09	.By applying reciprocating or oscillating motion	23.28	..For density or specific gravity
12.01	TESTING BY IMPACT OR SHOCK	23.29	...Pressure
12.02	.Resilient ball (e.g., golf ball, baseball, etc.)	23.3	.Breath analysis
12.03	.Typewriting ribbon or carbon paper	23.31	.Gas of combustion
12.04	.Accelerated or decelerated specimen (e.g., propelled or dropped specimen support carriage)	23.32	..Air-fuel ratio
12.05	..Particle or projectile specimen	23.33	...Solid content
12.06	..Dropped	23.34	.Odor
12.07	..By hydraulic or pneumatic forces	23.35	.Gas chromatography
12.08	.Specimen directly subjected to a fluid pressure pulse or wave	23.36	..With electrical computer or data processor control
12.09	.Specimen impactor detail	23.37	..With spectrometer
12.11	..Particle or projectile	23.38	..Petrochemical
12.12	..Reciprocating or oscillating	23.39	..Column detail
12.13	..Dropped	23.4	..Detector detail
12.14	...Pivoted	23.41	..Including sample preparation or sampling
19.01	GAS CONTENT OF A LIQUID OR A SOLID	23.42	..Detail of gas handling means
19.02	.By gas chromatography	24.01	.By vibration
		24.02	..Produced by radiant energy
		24.03	..Solid content of gas
		24.04	..Moisture content or vapor pressure of gas
		24.05	..Density or specific gravity of gas
		24.06	..Detector detail
		25.01	.By thermal property
		25.02	..With magnetic property (e.g., paramagnetic gas)
		25.03	..Thermoconductivity
		25.04	..Moisture content or vapor pressure

25.05	..Detector detail	441	.Portable hand manipulable syringe type
28.01	.Solid content of gas	442	..With thermometer
28.02	..Particle charging	443	...With calculator
28.03	..Pressure	444	.Freely vertical reciprocable float with carried indicium
28.04	..Separator detail	445	..Continuous test fluid supply
28.05	...Impactor	446	..With section means
28.06	....Fractionalizing	447	..With liquid level responsive gauge or compensator
29.01	.Moisture content or vapor pressure	448	..Float structure
29.02	..Hygrometer	449	...With carried thermometer or thermal compensator
335.01	...With optical element	450	...Specimen carrying
335.02	...With electric circuitry or electric circuit component detail	451	.Float operated indicator
335.03	....Impedance	452	..Continuous test fluid supply
335.04	.....Capacitance	453	..Electrical indication
335.05	.....Resistance or conductivity	454	..Pivoted float
335.06	...Wet and dry responsive elements	32 A	.Involving vibration of substance or the measuring apparatus
335.07	....With direct readout or calculator detail	35.01	ENGINE DETONATION (E.G., KNOCK)
335.08	....Wet bulb detail	35.02	.Fuel rating (e.g., octane rating)
335.09	.....Relative air motion creating means (e.g., sling psychrometer)	35.03	.Combustion signal compared to reference signal varied by a condition of the engine
335.11	...Expanding-sorption element	35.04	..Including calculation means
335.12	....Coiled or twisted	35.05	..Automatic gain control or feedback control
335.13	....Arcuate or elongated	35.06	.Combustion signal compared to a fixed reference signal or utilizing a threshold value
335.14	....Tensioned	35.07	.Specific type of detonation sensor
29.03	..Pressure	35.08	..Ionization
29.04	..With visual indication	35.09	..Vibration
29.05	..Detector detail	35.11	...Piezoelectric
30.01	.Density or specific gravity	35.12	..Pressure
30.02	..By pressure measurement	35.13	...Piezoelectric
30.03	..By rate of flow	35.14	EXPLOSIVE
30.04	..Detector detail	35.15	.By time measurement (e.g., burning rate, detonation velocity)
31.01	.Ambient air	35.16	.Electric sensor
31.02	..Impurity	35.17	.Safety feature or containment structure
31.03	.Impurity	36	ILLUMINATING FLUID
31.04	.Pressure	37	WITH FLUID PRESSURE
31.05	.Detector detail	37.5	.Dimension, shape, or size
31.06	..Semiconductor	37.6	..Moving specimen
31.07	.Particular separator	37.7	...Sheet or filament
32 R	SPECIFIC GRAVITY OR DENSITY OF LIQUID OR SOLID	37.8	..Plural tests
433	.With weighing feature	37.9	..Internal gauging
434	..Continuous test fluid supply	38	.Porosity or permeability
435	..Plural supports for specimen		
436	...Vertically, commonly suspended		
437	..Immersion		
438	..Hydrostatic pressure type		
439	..Bubble tube		
440	.Multiple floats of graduated density		

39	..Fluid pressure brake system or unit	54.04	..Friction tube (e.g., capillary)
40	..Leakage	54.05	...Plural tubes
40.5 R	..Fluid handling conduit in situ	54.06	....By pressure measuring
40.5 A	...Using acoustic detectors	54.07	...By time interval of travel or flow rate measuring
40.7	..By probe gas, vapor, or powder	54.08	....Including a photocell
41	..Conveyor feed	54.09	...By pressure measuring
41.2	...With immersion	54.11	..Orifice, nozzle, or extrusion means
41.3	....Defective article discard		
41.4	.....Automatic	54.12	...Plural fluids (e.g., comparison)
45	...With defective article discard	54.13	...By time interval of travel or flow rate measuring
45.1	....Automatic	54.14	...By force, pressure, or displacement measuring
45.2	.....Electrically controlled	54.15	..Gravity movement of an object in a liquid (e.g., a bubble)
45.3	.....Vacuum support failure	54.16	...With detail of temperature or pressure regulating or compensating means
45.4	.....Sealed receptacle		
45.5	..With immersion	54.17	...Using a reference fluid
45.6	...Pneumatic tire	54.18	...With means for restoring an object to its initial starting position (e.g., magnetic or fluid means)
45.7	....Mesh envelope	54.19	...Including detail of a timing detection circuit
45.8	...Radiator	54.21	...Including an object concentricity guide means
46	..Between fitted parts (e.g., joints)	54.22	..Adhesion between wetted surfaces
47	...Piston, piston ring, or engine valve	54.23	..Force reactance to member driven therein
48	...Tire valve	54.24	...By vibration
49	..Pneumatic tire	54.25	....Dampening effect (e.g., frequency, amplitude, speed, or power measurement)
49.1	..Pipe	54.26	....With detail of a drive means or a detecting means
49.2	..Receptacle	54.27	...With detail (e.g., circuitry) of a drive means or a detecting means
49.3	...Sealed		
49.4	..With ram pressure inducer	54.28	...Rotationally driven member
49.5	..Pipe	54.29	....Comparator
49.6	..With power-operated closure or seal	54.31	....By measuring the driving force or the speed of the driven member
49.7	..Motor part or auxiliary	54.32	....By measuring an opposed drag force
49.8	..Clamp, plug, or sealing feature	54.33	....By measuring angular displacement
52	TESTING SEALED RECEPTACLE	54.34	....By measuring a counterbalance or restoring force
53.01	LIQUID ANALYSIS OR ANALYSIS OF THE SUSPENSION OF SOLIDS IN A LIQUID		
53.02	..Butter fat content		
53.03	..Paper or wood suspension (e.g., paper or wood pulp)		
53.04	..By measuring fluid flow characteristic (e.g., by volume or rate of flow or by change in fluid level)		
53.05	..Lubricant testing		
53.06	..By analyzing a characteristic of a measuring surface		
53.07	..By solid content		
54.01	..Viscosity		
54.02	..Combined with other measuring means		
54.03	..Of concrete (e.g., slump indicator)		

54.35	....Including detail of a motor drive, a stator, or a housing structure of a motor	61.69	....By optical measurement
54.36	...Penetrometer	61.71	..For measuring solid components (e.g., particles)
54.37	...By movement or displacement between shearing surfaces	61.72	...By separation and subsequent measurement (e.g., by weighing, X-ray or microscope, etc.)
54.38	...Detector detail	61.73	...By flowing through barrier or restriction and measuring flow effect (e.g., pressure, volume of or rate of flow)
54.39	..Shearing torque between parallel surfaces	61.74	....Thermal
54.41	..Vibration	61.75	...Vibration
54.42	..Thermal	61.76	..By thermal measurement
54.43	..With detail of a pressure or a temperature regulating means	61.77	...Vaporization (e.g., evaporation, distillation, etc.)
60.11	.Cleaning or foaming ability	61.78	..By pressure measurement
61.41	.Content or effect of a constituent of a liquid mixture	61.79	..By vibration
61.42	..Metallic particle constituent	64.41	.Gelling or coagulation
61.43	..Liquid constituent of a liquid mixture	64.42	..By vibration
61.44	...Plural liquid constituent (e.g., multiphase liquid)	64.43	..By optical measurement
61.45	....By vibration	64.44	.Vapor-liquid ratio
61.46	...By thermal measurement	64.45	.Vapor pressure
61.47	...By pressure measurement	64.46	..Differential pressure
61.48	...By optical irradiation	64.47	.Osmotic pressure (e.g., diffusion characteristic)
61.49	...By vibration	64.48	.Surface tension
61.51	...Buoyant detector	64.49	..By force or torque
61.52	...Chromatography	64.51	..By pressure
61.53	....Column detail	64.52	..Liquid droplet
61.54	....Paper or thin layer type	64.53	.By vibration
61.55	....Including sampling, sample handling, or sample preparation	64.54	.Molecular weight
61.56	....Detail of fluid handling means (e.g., valve, control, etc.)	64.55	.Interface
61.57	....With detail of compensation or regulating means	64.56	.Sampler, constituent separation, sample handling, or sample preparation
61.58	....Detector detail	65.01	CENTER OF GRAVITY; TURNING MOMENT; METACENTRIC HEIGHT
61.59	...With detail of sampling, sample handling, or sample preparation	65.02	.Spherical specimen
61.61	...Detector detail	65.03	.Ball driving sporting implement (e.g., golf club, baseball bat, etc.)
61.62	..Depositing characteristic	65.04	.Watercraft (e.g., metacentric height)
61.63	..Settling or filtering ability	65.05	.Air or space vehicle
61.64	...By volume or flow rate	65.06	..Electric sensor
61.65	...Sedimentation rate	65.07	.Dynamic
61.66	....With means for accelerating solids (e.g., particles)	65.08	..Torsional oscillation
61.67	....By pressure measurement	65.09	.Electric sensor
61.68	....Including detail of fluid handling means, sampling, sample handling, or sample preparation	66	ROTOR UNBALANCE
		455	.Propeller, impeller, or fluid coupling
		456	..Single blade balancing
		457	.In situ

458	..With counterbalancing means	581	..Including axial force determination
459	.Combined static and dynamic	582	..Including structural bond evaluation
460	.Dynamic (spinning)	583	..Of aircraft or related structural element
461	..Mass centering	584	.By mechanical waves
462	..With electrical sensor and indicator	585	..Including ear or hearing testing
463	...Wattmeter	586	..Reverberation
464	...Rotatable switch	587	..Acoustic emission
465	...Oscilloscope (cathode ray)	588	..Structural bond evaluation
466	...Stroboscopically illuminated	589	..Acoustical impedance
467	....Indicator	590	..In detection of a liquid reaction, a chemical reaction, or a nuclear reaction
468	..With counterbalancing means	591	..Listening or sound tube
469	...By radially and circumferentially adjustable weights	592	..Fluid, fluid leak, or pipe flaw detection
470	...By circumferentially adjustable weights	593	..Bearing, gear, or related moving mechanism
471	..With vibratable mount feature	594	..Soil or building structure
472	...Free floating rotor	595	..Frangible
473	....Horizontal axis	596	..Beamed
474	...One rotor end universally tiltable	597	...Velocity or propagation time measurement
475	...Horizontal rotational axis	598	....For flaw or discontinuity detection
476	....Horizontal plane of vibration	599	...Attenuation measurement
477	.....Both ends free	600	....For flaw or discontinuity detection
478	.....With selective endlock	601	...Having plural, diverse forms of radiant energy
479	....Horizontal fulcrum	602	...With signal analyzing or mathematical processing
480	.Gravitational moment turns rotor about spin axis	603	...Acoustic holography
481	..Ways	604	....Having means substituted for reference signal
482	.Gravitational moment tilts rotor about axis transverse to spin axis	605	....Liquid or deformable surface holography
483	..Universally tiltable	606	...Imaging of discontinuity with stationary sonic transmitter
484	...With tapered rotor centering means	607	....By scan of a sonic receiver
485	...With expansible or contractible centering means	608	....By Bragg diffraction
486	...With suspension means	609	...Measuring or testing system having threshold, gating, delay, or blocking means
487	.Tool and adjunct	610	....Electronic gating
570	VIBRATION	611	.....Adjustably responsive to information signal
570.5	.Acoustic levitation	612	.....Plural gating
571	.Test chamber	613	.....Of noise
572	.Loose object detection	614	.....Of signals to pass only echoes from within test body
573	.Hardness or compliance		
574	.Mechanical impedance		
575	..Of an elastomer		
576	..Device having an electromagnetic drive		
577	.Fatigue study		
578	..Electromagnetic drive		
579	.Resonance, frequency, or amplitude study		
580	..Including weight determination		

615	.....Of signals to pass only echoes from front surface or flaw and from rear surface of test body	646	...Amplitude, power, or intensity
616	.....Of signals to pass only echoes from rear surface of test body	647	....Current generating or modifying
617	....Having mechanical delay or mechanical blocking	648	.....Frequency sensitive
618	...Measuring or testing system having scanning means	649	.Sensing apparatus
619	....Programmed scan	650	..Torsional
620	....By reflected wave	651	..Vibratable reed
621	.....Having compound scan	652	..With inertia element
622	.....Of tubing, vessel, or cylindrical object	653	...With light beam indicator
623	.....Scan from within object	654	...With electrically controlled indicator
624	.....Having separate sonic transmitter and receiver	655	..With light beam indicator
625	.....Having plural sonic type transmitter or receiver transducers	656	...By optical holography
626	.....Switched	657	...By frequency or phase shift
627	...By reflected wave	658	..With electrically controlled indicator
628	....Having plural sonic type transmitters or receivers transducers	659	...Spectrum analysis
629	....Having unitary sonic type transmitter-receiver transducer	660	...Rotating machinery or device
630	.....Establishing resonance in a test body	661	...Having a probe
631	.....Having automatic gain control	662	.Vibrator
632	...Sonic wave transmitter or receiver transducer	663	..Table, platform, or other support
633	....Having transducer scanning means	664	...Circuitry
634	.....Automatic transducer positioning	665	...Having fluid bearing or fluid pressure actuated
635	.....Rolling contact	666	...Having spring support
636	.....On railroad rails	667	...Eccentrically vibrated
637	.....Around cylindrical object	668	...Electromagnetically vibrated
638	.....Along cylindrical object	669	..Vehicle shaker
639	.....Transducer forms wheel or is within a wheel	670	...Treadmill
640	.....Scanning curved surface in direction of curvature	671	..Having a fluid jet
641	.....Plural sonic transmitters or receivers	672	..Having a rotatable imbalanced mass
642	....Having wave shaping means	73	MOISTURE CONTENT OR ABSORPTION
643	....Nonvibrating transducer	74	..By residual capacity measurement
644	....Having significant coupling means	75	..By heat conductivity
645	..Acoustic parameter	76	..By desiccation or extraction
		77	..By wet and dry bulb temperature
		78	HARDNESS
		79	.Scleroscope or rebound
		81	.By penetrator or indenter
		82	..Impact type
		83	..With successive minor and major load
		84	..Soil bearing capacity
		85	..Penetrator element
		86	EMBRITTLMENT OR EROSION
		87	DUCTILITY OR BRITTLENESS
		760	SPECIMEN STRESS OR STRAIN, OR TESTING BY STRESS OR STRAIN APPLICATION
		761	.Threaded fastener stress

762	.Indicating coating or sheet providing direct visual indication (e.g., cracking, color change)	794	..Plural diverse stress-strain tests or composite loads
763	.Specified electrical sensor or system	795	...Strain
764	..Having level attainment counter	796	...Tension-compression
765	..Compensation (e.g., linearization)	797	....Alternating
766	...Temperature	798	....Hydraulic or pneumatic actuation
767	..Plural sensors at single location (e.g., diverse orientation, plural level)	799	..Specimen cracking or crack propagation
768	..Sensor embedded in specimen	800	..Optical
769	..Coupling circuit for specific additional purpose (e.g., noise suppression) or having specified structure	801	..Acoustic emission
770	...Peak indicating system	802	..Aircraft structure
771	...Having selector switching means	803	..Concrete
772	...Plural sensed signal system	804	..Model of structure to determine structure properties
773	...Specified signal transmitting link	805	..Varied in response to specimen condition other than failure
774	..Specified sensor structure	806	..Varied according to predetermined pattern
775	...Bonded to specimen	807	...Applied directly by fluid pressure
776	....Sensor comprises coating	808	...Repetitive
777	...Semiconductor	809	....Plural specimen
778	...Vibratory element	810	....To failure
779	...Magnetic or inductive	811	....Electric control circuit or particular loading device
780	...Capacitive	812	....Flexing, bending, or folding
781	.Specified load or strain transmission device from specimen to electrical detector	813	....Compressive
782	..Strain multiplier	814	....Torsional
783	.Deformation or change in stress after fracture, cutting, or boring	815	....Shear
784	.Earth stresses	816	...Hydraulic or pneumatic actuation
785	.Prestressed specimen	817	...Motor driven actuating screw
786	.In static structures (e.g., buildings, bridges)	818	..Compressional
787	.Stress or strain history of a specimen without application of a load	819	...Plural specimen or multiaxial loading
788	.By loading of specimen (e.g., strength of material test)	820	...Fluid displacement provides indication
789	..Stress-strain relationship determination	821	...To fracture, crushing, or yield point
790	...Compression	822	...Plastic flow or creep
791	...Graphical output	823	...Residual deformation (e.g., consolidation)
792	....Moving chart	824	...By rotating squeezing element
793	.....Drum	825	...With hydraulic or pneumatic actuation
		826	..Tensile
		827	...Bond test
		828	...Strand or chain test
		829	....By roller
		830	....To failure
		831	...Having specified clamp
		832	....Interior to specimen
		833	....Jaws

834	...To failure	117.2	.Disparate tests under operating conditions
835	....Tear	117.3	..With continuous operation
836	...Pendulum dynamometer	117.4	.Thrust measurement (e.g., jet engine)
837	...Hydraulic or pneumatic actuation	118.1	.Testing auxiliary unit
838	..Rupture or burst strength of sheet material by transverse loading	118.2	..Intake air flow
839	...Including cutting or piercing element	119 R	.Motor part
840	...Hydraulic or pneumatic actuation	120	..Piston ring
841	..Shear	119 A	..Fuel injection tests
842	...Bond	121	BRAKE TESTING
843	...By rotary element	122	.Slidable platform
844	...Impact (e.g., pendulum)	123	.Roller or belt wheel support
845	...To fracture or failure	124	..Relatively shiftable front and rear wheel supports
846	...Opposing work holders including specimen	125	..Inertia type
847	..Torsion	126	..With driving effort indication
848	...To failure	127	...Single wheel portable unit
849	..Bending, flexing, or folding	128	.Road test attachment or adjunct
850	...Weld testing	129	.Vehicle installation
851	...To failure or fracture	130	.Single wheel rotating and resistance measuring means
852	...Loading means intermediate stationary end holders or supports	131	..Torque measuring lever
853	...Having opposite ends of specimen clamped	132	.Brake depressor with measuring means
854	...By angular displacement of opposite ends of specimen	862	DYNAMOMETERS
855	.Support, holder, or housing for unspecified type electrical sensing element	862.01	.For testing force-biased connections
856	.Specimen clamp, holder, or support	862.02	..Ski bindings
857	..With hydraulic or pneumatic actuation of grip	862.03	.For testing relative pulling power (e.g., for contests)
858	..Winding drum or roller type	862.041	.Responsive to multiple loads or load components
859	..With wedging or camming elements contacting specimen	862.042	..Along or about mutually orthogonal axes
860	..Opposed pair	862.043	...Three dimensional (e.g., x, y, z axes)
104	SURFACE AND CUTTING EDGE TESTING	862.044	....Using a resistance strain gage
105	.Roughness	862.045	..Using a resistance strain gage
112	POWER PLANT OR UNIT EFFICIENCY	862.046	..Transducer array (e.g., columns and rows)
113	.Automobile fuel consumption	862.05	..Applied to guidance means
114	..Miles per gallon	862.06	..On machine tools
115	.Pressure derivative	862.07	..To determine distribution of tensile stress
116	MOTOR AND ENGINE TESTING	862.08	.Responsive to torque
117	.With vehicle wheel supporting roller or belt	862.09	..By absorption
117.1	.Utilizing a test chamber or tank to simulate operating conditions	862.11	...Having plural brake means
		862.12	...Having friction brake means
		862.13	....Automatic load control
		862.14	...Having fluid brake means
		862.15	....Air brakes
		862.16	....Automatic load control

- 862.17 ...Having magnetic or electromagnetic brake means
- 862.18Automatic load control
- 862.191 ..During transmission to an external load
- 862.21 ...For making or breaking threaded connections (e.g., torque measuring wrenches)
- 862.22With variable capacity or sensitivity
- 862.23With detection of specific torque value or condition (e.g., peak torque)
- 862.24Rate of change
- 862.25Power tongs
- 862.26Bending beam type
- 862.27 ...With recording or totalizing means
- 862.28 ...With electrical computation of horsepower
- 862.29 ...By measuring reaction forces of a prime mover
- 862.31 ...By measuring reaction forces of transmission gearing
- 862.321 ...By measuring elastic deformation of a torque transmitting member
- 862.322With rotary to linear conversion
- 862.323Using a flowing fluid (e.g., using a shaft mounted nozzle and baffle)
- 862.324Using a light sensor
- 862.325Using an electrical sensor
- 862.326Phase angle detection
- 862.327Vernier type
- 862.328By plural toothed or notched sensing means
- 862.329Interlaced teeth
- 862.331Inductance or reluctance sensor
- 862.332Variable air gap in a magnetic core
- 862.333Detecting magnetostrictive or magnetoelastic property
- 862.334Grooved or slotted torsion shaft
- 862.335Magnetic sleeve or layer
- 862.336Particular constituent
- 862.337Capacitance sensor
- 862.338Resistance strain gage
- 862.339With noncontact coupling (e.g., rotary transformer)
- 862.37 ...By measuring the fluid pressure of a hydraulic coupling
- 862.192 ...By measuring angular acceleration
- 862.193 ...By measuring an electrical or magnetic characteristic of a torque delivering electric motor
- 862.194 ...By measuring tension in a drive belt or chain
- 862.195 ...By converting transmitted torque into axial force
- 862.381 ..Responsive to force
- 862.391 ..To determine tension on a flexible element
- 862.41 ...By measuring vibrations (e.g., resonant frequency)
- 862.42 ...By applying a measured tensioning force
- 862.43Racket stringing
- 862.44With winding or reeling means
- 862.451 ...By measuring deflection or a deflecting force
- 862.452For testing racket stringing
- 862.453For testing a drive belt
- 862.454Using a fluid for deflection or force measuring
- 862.46With angular deflection
- 862.471Using an elastically deformable force measuring means
- 862.472With pivoted deflecting member between spaced guides or supports
- 862.473Electrical sensor
- 862.474Resistance strain gage
- 862.392 ...By measuring axial force or stretch
- 862.393 ...Pulling force on an anchoring device
- 862.49 ..To determine axial thrust on a rotating machine element
- 862.51 ..With recording means
- 862.52 ..With variable capacity or sensitivity
- 862.53 ..With detection of specific force value or condition (e.g., peak force)
- 862.541 ..Combined
- 862.55 ...With pressure applying roller (e.g., mill roll)
- 862.56 ...With hoisting means
- 862.57 ...With towing means
- 862.542 ...With jack or press

862.543	...With pumping unit	146.8	...Tire stem attachments
862.581	..By measuring a fluid pressure	147	WIND TUNNEL: AERODYNAMIC WING AND PROPELLER STUDY
862.582	...Using a load responsive valve or restrictor	148	MODEL BASIN AND TESTING TANK
862.583	....Pneumatic	149	VOLUMETRIC CONTENT MEASURING
862.584	...Using a piston	150 R	COATING MATERIAL: INK ADHESIVE AND/OR PLASTIC
862.59	..By measuring vibrations (e.g., resonant frequency)	150 A	.Bond strength
862.61	..By measuring a counterbalancing or restoring force	152.01	BOREHOLE OR DRILLING (E.G., DRILL LOADING FACTOR, DRILLING RATE, RATE OF FLUID FLOW)
862.621	..By measuring elastic deformation	152.02	.Formation logging (e.g., borehole studies of pressure derivatives or of pressure-temperature derivatives)
862.622	...With compensation	152.03	..During drilling
862.623	....Temperature	152.04	...By drill mud analysis
862.624	...Using a light sensor	152.05	..Density, porosity, or permeability
862.625	...Using a specific type of electrical sensor	152.06	...Including oil, gas, or water saturation
862.626	....Inductance or capacitance sensor	152.07	...By a core sample analysis
862.627	....Resistance strain gage	152.08	..Oil, gas, or water saturation
862.628	.....Including a specific type of electrical circuit	152.09	...By a core sample analysis
862.629	.....Specific type of elastic member	152.11	..By a core sample analysis
862.631	.....Axle or pivot pin	152.12	..Thermal
862.632	.....Flexible element (e.g., beam, plate, or web)	152.13	...With heating or cooling
862.633	.....Parallel	152.14	..With radioactivity measuring
862.634	.....Cantilever	152.15	...With vibration measuring
862.635	.....Closed loop (e.g., ring or tube)	152.16	..With vibration measuring
862.636	...Specific type of elastic member	152.17	..With detail of a borehole wall engaging means
862.637	....Flexible element (e.g., beam, plate, or web)	152.18	.Fluid flow measuring or fluid analysis
862.638	.....Parallel	152.19	..During drilling
862.639	.....Cantilever	152.21	...Rate of fluid flow
862.641	....Helical or spiral	152.22	...Pressure
862.642	....Closed loop (e.g., ring or tube)	152.23	..With sampling
862.68	..By measuring electrical properties	152.24	...From formation wall
862.69	..By measuring magnetic properties	152.25	....With a filter
862.382	..With detail of overload protection	152.26	....With sealing detail
146	TIRE, TREAD OR ROADWAY	152.27	...Pressure
146.2	.Tire inflation testing installation	152.28	...Downhole
146.3	..By direct fluid pressure reading	152.29	..Rate of fluid flow
146.4	...Telemetric (e.g., indicator on cowl)	152.31	...Plural diverse measuring
146.5	....Electric	152.32	...Vibration
		152.33	...Thermal
		152.34	...Rotary
		152.35	....Magnetic
		152.36	...Packer or deflector detail
		152.37	..Steady state fluid flow interruption
		152.38	...Drawdown or shutin test
		152.39	..Fluid injection into formation

152.41	...Determining permeability or saturation	170.02	.Relative to aircraft or watercraft
152.42	..Determining relative proportion of fluid constituent	170.03	..Sailboat (e.g., sailing aid)
152.43	..During drilling	170.04	.Using a drifter or tracer (e.g., smoke)
152.44	..Drill depth rate	170.05	.Using a fluid actuated alignment device (e.g., wind sock, weather vane, etc.)
152.45	...Electronic processing or electronic recording	170.06	..With illumination means or an electro-optical indicator (e.g., beacon or signal lamp)
152.46	..Downhole measurement	170.07	..With velocity determination
152.47	...Vibration	170.08	...Electric sensor
152.48	...Force	170.09	..Electric sensor
152.49	..Force	170.11	.With velocity determination
152.51	.Pressure measurement	170.12	..Thermal
152.52	..Plural diverse measurements	170.13	..Acoustic
152.53	..With recorder	170.14	..Fluid pressure differential
152.54	.Downhole test	170.15	..Thrust or drag force
152.55	..Fluid test	170.16	METEOROLOGY
152.56	..Free point or stuck point	170.17	.Precipitation (e.g., rain gauge)
152.57	..Casing or cementing	170.18	..With recorder detail
152.58	..Using vibration	170.19	..With heater or vaporizer
152.59	..By measurement of response due to force	170.21	..Sensing accumulated amount (e.g, rain gauge)
152.61	.Pump test	170.22	...Using a float
152.62	..With recorder	170.23	...Weight actuated (e.g., tipping bucket)
156	STATISTICAL RECORD VERIFYING	170.24	.Electric disturbance (e.g., lightning)
157	RECORD STRIP SPROCKET HOLE TESTING	170.25	.Micrometeorite
158	HOISTING CABLE AND ROPE	170.26	.Icing condition (e.g., accretion)
159	SHEET, WOVEN FABRIC OR FIBER	170.27	.Naturally occurring radiation (e.g., solar radiation)
160	.Filament	170.28	.Using unmanned, self-controlled airborne instrumentation carrier (e.g., radiosonde)
161	SPRING TESTING	170.29	OCEANOLOGY (E.G., OCEANS, RIVERS, OR LAKES)
162	TOOTHED GEAR	170.31	.Surface wave
163	COIN	170.32	.Bottom sediment or soil
164	MINER'S LAMP	170.33	.Towed probe
167	ORDNANCE AND PROJECTILE	170.34	.Unattached, self-contained probe with buoyancy controlled level of descent
168	BLOWER, PUMP, AND HYDRAULIC EQUIPMENT	861	VOLUME OR RATE OF FLOW
169	FLOUR, DOUGH, OR BREAD	861.01	.With indirect temperature or density compensation
172	ORTHOPEDIC PRESSURE DISTRIBUTION	861.02	..Electrical
178 R	NAVIGATION	861.03	...Digital
179	.Rate of climb (pressure type)	861.04	.Of selected fluid mixture component
180	.Leeway incidence or side-slip	861.05	.By measuring transit time of tracer or tag
181	.Ship's log		
182	..Pressure differential type		
183	...With integrating means		
184	..Drag type		
185	...Rotary		
186	..Vane type		
187	..Rotary		
178 H	.Helicopter		
178 T	.Take-off and landing monitors		
170.01	FLUID FLOW DIRECTION (E.G., WIND SOCK, WEATHER VANE, ETC.)		

- 861.06 ..With autocorrelation or cross-correlation detection
- 861.95 ..Thermal tracer or tag
- 861.07 .By measuring tracer concentration
- 861.08 .By measuring electrical or magnetic properties
- 861.09 ..Ionization type
- 861.11 ..Electromagnetic induction (e.g., Faraday type)
- 861.12 ...With detecting electrodes
- 861.13Including permanent magnet or D.C. field
- 861.14For dielectric fluids
- 861.15Plural pairs of detecting electrodes
- 861.16Including electrically interconnected or synchronized input and output circuit
- 861.17Selective or periodic sampling
- 861.18 .By measuring vibrations or acoustic energy
- 861.19 ..Produced by fluidic oscillator
- 861.21 ..Caused by fluid interaction with obstacle
- 861.22 ...Vortex shedders
- 861.23Acoustic
- 861.24Movable sensor responsive to vortices
- 861.25 ..Reflection or scattering of acoustic waves
- 861.26 ..Deflection of acoustic waves
- 861.27 ..Transit time of acoustic waves
- 861.28 ...Transmitted along single path
- 861.29In both directions simultaneously
- 861.31 ...Transmitted along parallel paths
- 861.32 .By measuring swirl rate imparted by static means
- 861.33 ..With turbine in a swirl chamber
- 861.34 ..Precess type
- 861.351 .Mass flow by imparting angular or transverse momentum to the fluid
- 861.352 ..Rotated resiliently coupled elements
- 861.353 ..Reaction turbine or vane
- 861.354 ..Coriolis or gyroscopic
- 861.355 ...Vibrated conduit
- 861.356Signal processing or analysis details
- 861.357Drive and sensor element located on straight conduit portion
- 861.39 .Using an applied fluid jet
- 861.41 .By counting drops, bubbles, or particles
- 195 .System
- 196 ..Flow comparing
- 197 ..Compound meter
- 198 .Combined
- 199 ..With pressure regulator or demand limit
- 200 ..With gas and liquid separator
- 201 ..With connection or box
- 202 .Proportional
- 202.5 ..Thermal sensing of flow
- 203 ..With valved proportioning means
- 204.11 .Thermal type
- 204.12 ..With conduit extending between heat sinks
- 204.13 ..With auxiliary fluid contacting or in heat exchange relation with flow path (e.g., thermodilution)
- 204.14 ..Including digital or pulse measuring circuitry
- 204.15 ..Including detail of feedback or rebalancing circuitry
- 204.16 ...By control of a separate heating or cooling element
- 204.17 ..With distinct heating circuitry for a self-heated sensor
- 204.18 ..Including response characteristic or condition compensation
- 204.19 ...For temperature
- 204.21 ..With fluid flow deflector or restrictor (e.g., baffle, constriction)
- 204.22 ..With sensor housing
- 204.23 ..Having particular electrical heating, cooling, or thermal sensing element
- 204.24 ...Thermoelectric junction
- 204.25 ...Resistive element
- 204.26With substrate carrier (e.g., thin film)
- 204.27Wire type (e.g., hot wire)
- 861.42 .Using differential pressure
- 861.43 ..With time integration
- 861.44 ...By electrical means
- 861.45 ...By mechanical means
- 861.46Including pressure applied to liquid column or reservoir

861.47	..Pressure applied to movable member (e.g., a diaphragm)	861.77	.Using rotating member with particular electrical output or circuit
861.48	...With linearization (e.g., square root extraction)	861.78	..With pick-up coil
861.49	..Pressure applied to liquid column or reservoir	861.79	.Using turbine
861.51	...With linearization	861.81	..With response modification
861.52	..With restriction	861.82	...Pressure responsive valve or restriction
861.53	...Automatically variable restriction	861.83	...Axial supply and delivery
861.54	....Slotted piston or cylinder	861.84	....Differentially responsive turbines
861.55	....Cone and ball or disk	861.85	..Anemometers
861.56	.....With structure of coupling to indicator	861.86	..With fluid directed radially outward
861.57	.....With structure of float, float tube, or float guide	861.87	..With flow direction retained in a plane perpendicular to turbine axis
861.58	....Orifice and tapered plug	861.88	...Mechanical coupling to indicator
861.59	...Including recirculation pump	861.89	..Axial supply and delivery
861.61	...Orifice or flow nozzle	861.91	...With structure to reduce friction or wear
861.62	....Adjustable	861.92	...With structure of bearing or turbine support structure
861.63	...Venturi	861.93	...With mechanical coupling to indicator
861.64	....Inlet or outlet structure	861.94	...With magnetic coupling drive assembly
861.65	..Pitot	232	.Expansible chamber
861.66	...Sensing at plural transverse locations	233	..With variable indicator drive
861.67	...Adjustable	234	..Wet type (e.g., liquid seal)
861.68	...With heating element	235	...Rotary drum
861.69	..Centrifugal	236	...Oscillating bell or drum
215	..Weir type	237	...Reciprocating bell
216	..Submerged orifice or discharge nozzle	238	...Nutating bell
	..Tank type	239	..Reciprocating piston or cylinder
217	..Rotary tank or bucket	240	...Transversely reciprocating piston and cylinder
218	...With power drive	241	...Oscillating cylinder
219	..Plural measuring chamber	242	...Valveless
220	...With fluid-pressure operated valve	243	...Duplex
221	...With float operated valve	244	....Wobble plate or cam
222	...With siphon discharge	245	....With transverse shaft
223	..Single measuring chamber	246	....With single distributing valve
224	...With float operated valve	247	...Radial cylinder
225	....With trip gear	248	...Valved piston
226	...With siphon discharge	249	...With fluid actuated valve
227	..Area-velocity integrating	250	...With piston or rod actuated valve gear
861.71	..By measuring thrust or drag forces	251	....With trip gear
861.72	..By changing fluid direction	252	..Oscillating piston
861.73	..Impact of particulate material	253	..Rotary piston or cylinder
861.74	..On a vane		
861.75	...With rotation about a fixed axis		
861.76	....Spring biased		

254	...With compensating bypass	309	..Buoyancy type
255	...With orbital movement	310	..Total registering
256	....Plural stationary abutment	311	..Multiple floats
257	....Single stationary abutment	312	..Recording
258	.....Nutating piston	313	..With electrically controlled indicator
259	...With sliding vane	314	..With position sensing
260	...With swinging vane	315	..With float lock
261	...With interengaging pistons	316	..With fluid transmission
262	..Diaphragm or collapsible wall	317	..Pivoted float arm
263	...Multiple diaphragm	318	...With flexible cable transmission
264	....Duplex	319	..Vertically reciprocable
265	....With rotary valve	320	...With spiral cam or guide
266	.....Crank operated	321	...With flexible cable transmission
267	.....With flag rod	322	...Indicator stem attached
268	....With oscillating or reciprocating valve	322.5	..Float structure
269	...Single diaphragm	323	..Sight glass
270	....With diaphragm actuated valve trip gear	324	..With cleaner
271	....With fluid actuated valve	325	..With guard or casing
272 R	..Element	326	...Boiler type
273	..Casing	327	..Reflector or magnifier
274	...Diaphragm meter type	328	..Boiler type
275	..Antireversing mechanism	329	...Duplex or multiple section
276	...Check valve	330	...Transparent closure plate type
277	.. "Frostproof" construction	331	....Bull's eye type
278	..Diaphragm mounting	332	...With valve
279	..Diaphragm	333	....Safety feature
280	...With oiling structure	334	..Transparent closure plate type
281	..Tangent adjustment	290 B	..Ullage volume
272 A	..With remote register	290 V	..Vibratory type
290 R	LIQUID LEVEL OR DEPTH GAUGE	379.01	MUSCULAR FORCE (E.G., STRENGTH TESTING, EXERCISING OR TRAINING EFFORT, ETC.)
291	..With other measuring device	379.02	..Jaw or hand (e.g., gripping, pinching, or biting)
292	..Thermometer	379.03	..Using a resilient force-resister
293	..With illumination	379.04	..Impact
294	..With funnel or hose nozzle	379.05	..Using a resilient force-resister
295	..Thermal type	379.06	..Including a rotary element with a braking means (e.g., friction brake)
296	..Weighing type	379.07	..Pedal driven (e.g., cycle ergometer)
297	..Test cock type	379.08	..Using a resilient force-resister
298	..Exploring tube	379.09	..Using hydraulic or pneumatic force-resister
299	..Hydrostatic pressure type	382 R	GRAVITATIONAL DETERMINATION
300	..Bathometer type	383	..Torsion balance
301	..With electrically controlled indicator	382 G	..Gravitational variation
302	..With fluid displacement or replenishment	488	SPEED, VELOCITY, OR ACCELERATION
303	...Suction type or vacuum tank action		
304 R	..Immersible electrode type		
304 C	..Capacitative		
305	..Float		
306	..Combined		
307	...With warning signal or alarm		
308	....Electric		

489	.Recording or registering interrelated factors	507	.Comparison to a fixed standard, master or reference speed device
490	.With distance registering means	508	.With governor drive failure responsive means
491	.With means for retaining reading	509	.With response to a nonspeed condition
492	..Maximum acceleration	510	.Response to multiple sensing means or motion conditions
493	.Structural installation or mounting means	511	..Response to both velocity and acceleration
494	..Installed in rotary speed source	512	...Centrifugal-type velocity sensor and separate inertial means
495	.Indicating diverse conditions	513	.With manual control
496	.Vibration control or antistick means for reading structure	514.01	.Acceleration determination utilizing inertial element
497	.Temperature compensator	514.02	..Angular acceleration
498	.Adjusting means for reading structure	514.03	...Fluid or fluent inertial mass (e.g., electrons, ions, plasma)
499	.Illuminated reading device	514.04	...Inertial flywheel
500	.Liquid surface is or moves reading means	514.05	..Fluid or fluent material
501	..Surface of revolving liquid body	514.06	...Fluid or fluent material support of an inertial element
502	.Externally connected pressure gauge gives reading	514.07	....Gas
503	.Means integrating time and acceleration	514.08	....Magnetic fluid
503.3	..Gyroscope	514.09	...Fluid or fluent inertial mass
504.01	.Angular rate using wave or beam motion (e.g., Sagnac type)	514.11	...Detection by fluid pressure
504.02	.Angular rate using gyroscopic or Coriolis effect	514.12	...Fluid or fluent material dampening of an inertial element
504.03	..Multisensor for both angular rate and linear acceleration	514.13	....Gas
504.04	...Vibratory mass	514.14	..Specific type of dampener (e.g., eddy current dampener)
504.05	..Fluid or fluent inertial mass (e.g., electrons, ions, plasma)	514.15	..Spinning or vibrating accelerometer
504.06	...Fluid jet	514.16	..Specific type of electric sensor or specific type of magnetic sensor
504.07	...Rotary	514.17	...Rebalance
504.08	..Rotary gyroscope	514.18	....Electrostatic restoring means
504.09	...Gimbal support	514.19	....Radiant energy sensor (e.g., optical, charged, or radioactive particle)
504.11	...Flexible rotor or flexibly mounted rotor	514.21	....Pendulum or beam
504.12	..Vibratory mass	514.22	.....Including a bearing support
504.13	...Hollow circular-shaped inertial element	514.23	.....Including a flexure support
504.14	...Elongated element with spaced supports	514.24	....Including an elastic support for an inertial element (e.g., spring)
504.15	...Cantilever	514.25	...Charged particle or radioactive particle sensor
504.16	....Tuning fork	514.26	...Optical sensor
504.17	.Angular rate using a fluid vortex rate sensor	514.27	....Frequency or phase shift
504.18	.With rotary gyroscope		
506	.Means integrating intermittent speed source impulses		

514.28	...Surface acoustical wave	545	...Spring and adjustor connect paired weights
514.29	...Having a vibrating element	546	..Leaf spring biasing means
514.31	...Inductive or magnetic sensor (e.g., Hall effect sensor)	547	..Toggle joint mounted
514.32	...Capacitive sensor	548	..Radially projecting striker type
514.33	...Resistive sensor	549	..Rigid mass crossing axis at an acute angle
514.34	...Piezoelectric sensor	550	..Weighted bell crank lever type
514.35	..Electric	551	..Surface and follower (e.g., cam or weight as wedge)
514.36	..Pendulum or beam	384	BAROMETER (E.G., ALTIMETER)
514.37	...Including a pivot support	385	.Mercury
514.38	..Including an elastic support for an inertial element (e.g., spring)	386	.Aneroid
514.39	.Magnetic speed measuring or mechanical speed measuring with ancillary magnetic means or with ancillary electrical means	387	..Settable
519.01	..Eddy current drag means (e.g., drag cup)	700	FLUID PRESSURE GAUGE
520.01	...With a flux adjusting means	701	.Null balance type
521	.Fluid	702	.Vibration type
522	..Dampening means	703	..Ultrasonic
523	..Expansible chamber devices	704	..Vibrating strip or wire
524	..Fluid coupling or torque convertor type	705	.Photoelectric
525	..Brake (e.g., vanes in air)	706	.With protective separator
526	..With dampening or shock-absorbing means	707	.With fluid pulsation dampener
527	..With input means	708	.With pressure and/or temperature compensation
528	..Selective speed transmitter	709	.With excess or maximum registering
529	..Frictional (e.g., friction wheels)	710	.With steam trap
530	..With output transmitting mechanism	711	.With variable drive
531	..With transmission adjustment means	712	.With recorder
532	..Gear	713	.With float
533	..Rectilinear rack	714	.Combined
534	..Surface and follower	715	.Diaphragm
535	..Centrifugal weight type	716	..Multiple and/or differential
536	..Weight lever arm or pivot automatically variable during operation	717	...With electrical readout
537	..Bias automatically variable during operation	718	....Capacitive
538	...Snap action	719	....Resistive
539	..Limit stop for weight	720	.....Strain gauge
540	..With adjusting means	721	.....Piezoresistive
541	...Diverse	722	....Electromagnetic
542	...Biasing weight	723	..With electrical readout
543	...Lever or gear adjustor	724	...Capacitive
544	...Adjusting screw means and bias spring concentric to centrifugal axis	725	...Resistive
		726	....Strain gauge
		727	.....Piezoresistive
		728	...Electromagnetic
		729.1	..Bellows
		729.2	..Capsule
		730	..Expansible conduit
		731	..Sack
		732	.Bourdon
		733	..With electrical readout
		734	...Resistive
		735	...Electromagnetic

736	..Multiple and/or differential	863.57	...With blocking means
737	..Intermediately supported	863.58	...Pitot tube type
738	..Safety pressure release casing	863.61	..Branched conduit
739	..With mechanism dampening	863.71	.Conduit or passageway section capture chamber
740	..With zeroizing adjustment	863.72	..Single valve unit
741	..Bourdon tube and mounting	863.73	...Capture chamber within valve unit
742	...Helical Bourdon tube	863.81	.Withdrawing through conduit or receptacle wall
743	...Spiral Bourdon tube	863.82	..Capture element movable to plural loci
744	.Piston	863.83	..With metering means or pump
745	..With electrical readout	863.84	...Expansible chamber
746	...Resistive	863.85	..Lock or seal for sampler insertion or removal
747	.U-tube liquid column	863.86	..Valve or restriction
748	..Sphygmomanometer	863.91	.Conveyor coacting
749	..With electrical readout	863.92	..Integral with conveyor structure
750	...Resistive	864	.Capture device
751	.Balance	864.01	..Pipette or cannula
752	.McLeod type	864.02	...Self-filling of self-limiting
753	.Electrical	864.03	...With user mouth protection
754	..Semiconductor	864.11	...With suction applying and liquid discharge means
755	..Pirani type	864.12	....With separate diluent supply
756	.Mounting and connection	864.13	....Piston within pipette
863	SAMPLER, SAMPLE HANDLING, ETC.	864.14	....With particular connection or release means
863.01	.Automatic control	864.15	....With valve for connection to external pressure source
863.02	..Quantity or rate of flow responsive	864.16	....Piston and cylinder
863.03	...Rate of sample flow continuously controlled	864.17	.....Plural
863.11	.With heating or cooling	864.18	.....Plural or adjustable limit stops
863.12	..And separation	864.21	...With sample supply to analyzer
863.21	.With constituent separation	864.22	...With pipette contacting second fluid supply
863.22	..Particle impact	864.23	...Pipette fixed; source movable
863.23	..Sieve, filter, or semipermeable membrane	864.24	...Pipette longitudinally movable
863.24	...Cleaning	864.25	....And transversely movable
863.25	...Changing feature	864.31	..With capture device transporter
863.31	.Plural parallel systems	864.32	...Cyclically operated scoop
863.32	..Pipette	864.33	..Capture by fluid current
863.33	..Plural capture, single receiver	864.34	..Sample meter or pump
863.41	.Flow divider, deflector, or interceptor	864.35	...Chamber with alternate pressure or vacuum applier
863.42	..Attached to mouth of dumpable receptacle	864.41	..Cutter, tearer, or scraper
863.43	..Having precapture flow guide or homogenizer	864.42	...Jaw
863.44	...Oscillating or reciprocating	864.43	...Auger or drill
863.45	...Rotary	864.44	...Corer
863.51	..Having an upstream-facing- opening-type capture element	864.45	....With corer advancing means
863.52	...With receptacle	864.51	..Receptacle type
863.53	....Mounted for flow zone traverse		
863.54	...Mounted for reciprocation		
863.55	...Oscillating		
863.56	...Rotary		

864.52 ...Preevacuated
 864.53 ...Mold
 864.54With suction applier
 864.55With diminutive fill
 passageway
 864.56Mating sections
 864.57Labyrinth
 864.58With sample conditioner
 864.59With holder or connector
 864.61 ...Fluid displacement
 864.62 ...Expansible chamber
 864.63 ...With valve or closure
 864.64Side opening
 864.65Contact actuated
 864.66Support force or inertia
 actuated
 864.67Messenger actuated
 864.71 ..Material for particulate
 adhesion
 864.72 ..Capillary attraction retention
 864.73 ..Conduit
 864.74 ...With penetrating means
 864.81 ..Analyzer supplier
 864.82 ..Having sample capsule support
 864.83 ..Having sample confining chamber
 864.84 ...Connector for separable holder
 864.85 ..Connector for separable holder
 864.86 ...Septum structure
 864.87 ...Syringe with connector
 864.91 ..Sample holder
 426 **MEASURING VESSEL**
 427 ..With depth indication
 428 ..Removable indicator
 429 ..Capacity adjustable
 430 **INSTRUMENT MECHANISM DAMPENING**
 431 **INSTRUMENT CASING**
 865 **MASS**
 865.1 **HUMAN STRESS LIMIT (E.G.,**
 DECOMPRESSION GAUGE FOR
 DIVERS)
 865.2 **HYDRAULIC ALTIMETER**
 865.3 **TESTING BY IMPARTING MOTION**
 865.4 **ANALYZING BODILY MOVEMENT (E.G.,**
 SKILLS OR KINETICS OF
 HANDWRITING)
 865.5 **PARTICLE SIZE**
 865.6 **SIMULATED ENVIRONMENT (E.G., TEST**
 CHAMBERS)
 865.7 **TOUCH OR TASTE**
 865.8 **INSPECTING**
 865.9 **TESTING OF APPARATUS**
 866 **TESTING OF MATERIAL**
 866.1 **INSTRUMENT MECHANISM OR**
 TRANSMISSION

866.2 ..Rate of change
 866.3 **DISPLAY OR DISPLAY DEVICE DETAILS**
 866.4 **SPECIMEN MODEL OR ANALOG**
 866.5 **PROBE OR PROBE MOUNTING**
 432.1 **MISCELLANEOUS**

CROSS-REFERENCE ART COLLECTIONS

900 **AUTOMATIC GAIN CONTROL**
 901 **DIGITAL READOUT**

FOREIGN ART COLLECTIONS

FOR 000 CLASS-RELATED FOREIGN DOCUMENTS

Any foreign patents or non-patent literature from subclasses that have been reclassified have been transferred directly to FOR Collections listed below. These Collections contain ONLY foreign patents or non-patent literature. The parenthetical references in the Collection titles refer to the abolished subclasses from which these Collections were derived.

FOR 100 **BORE HOLE AND DRILLING STUDY (73/151)**
 FOR 101 **..Drill depth-rate (73/151.5)**
 FOR 102 **..Formation logging (73/152)**
 FOR 103 **..By drill mud or core analyst (73/153)**
 FOR 104 **..Thermal (73/154)**
 FOR 105 **..Fluid intrusion, theft of flow study (73/155)**

DIGESTS

DIG 1 **VIBRATION**
 DIG 2 **MAGNETOSTRICTIVE**
 DIG 3 **HALL EFFECT**
 DIG 4 **PIEZOELECTRIC**
 DIG 5 **LIQUID LEVELS WITH MAGNETIC**
 TRANSMISSION
 DIG 8 **FLUID CIRCUITS**
 DIG 9 **MOLTEN METAL SAMPLERS**

DIG 10 INSTRUMENT MECHANISMS WITH
ACCELERATION COMPENSATION

DIG 11 PHOTOELECTRIC CELL